

CLAIMS FOR PATENT

1. An optical fiber connection structure wherein optical fibers are connected by means of a component for
5 connecting optical fibers comprising two plugs, into which at least one optical fiber has been inserted respectively, for aligning said optical fibers and connecting them, and an adapter for fixing said plugs, which comprises that the
10 plugs are fixed to the adapter by attaching each plug, into which the optical fiber has been inserted, to the adapter in a direction perpendicular to the axial direction of the optical fiber.

2. The optical fiber connection structure according to Claim 1, wherein either the plug or the adapter is equipped
15 with a latch member and the other has a latch engaging section(s), and the plug is fixed to the adapter by engaging the latch member with the latch engaging section.

3. The optical fiber connection structure according to Claim 1 or Claim 2, wherein either the plug or the adapter
20 has a guide(s) for alignment and the other is equipped with a member for alignment which engages with said guide.

4. The optical fiber connection structure according to Claim 1, wherein the plug and the adapter have a through-
hole(s) for alignment, and the plug is fixed to the adapter
25 by inserting a guide pin into said through-hole.

5. The optical fiber connection structure according to Claim 1, wherein the plug is equipped with one or plural
ferrules, each ferrule of said plug is equipped with a
ferrule aligning member capable of sliding in a direction of
30 the center axis of the optical fiber, and the ends of ferrules brought face to face with each other are located inside said ferrule aligning member as a result of sliding said ferrule aligning member in a direction of the center

axis of the optical fibers.

6. The optical fiber connection structure according to Claim 5, wherein said ferrule aligning member is previously attached to the adapter.

5 7. The optical fiber connection structure according to Claim 5, wherein said ferrule aligning member is previously attached to a ferrule of at least one of two plugs.

8. A component for connecting optical fibers comprising two plugs, into which at least one optical fiber
10 has been inserted respectively, for aligning said optical fibers and connecting them, and an adapter for fixing said plugs, wherein either the plug or the adapter is equipped with a latch member and the other has a latch engaging section(s).

15 9. The component for connecting optical fibers according to Claim 8, wherein either the plug or the adapter has a guide for alignment and the other is equipped with a member for alignment which engages with said guide.

10 10. A component for connecting optical fibers comprising two plugs, into which at least one optical fiber
20 has been inserted respectively, for aligning said optical fibers and connecting them, and an adapter for fixing said plugs, wherein said plugs and adapter have a through-hole(s) for alignment, and a guide pin is inserted into said
25 through-hole.

11. An optical fiber connecting method which comprises a step of inserting at least one optical fiber into two plugs respectively, a step of attaching said two plugs to an adapter in a direction perpendicular to the axial direction
30 of the optical fiber and a step of fixing said two plugs to the adapter.

12. The optical fiber connecting method according to Claim 11 which comprises a step of fixing the plugs to the

adapter using two plugs and an adapter having each a through-hole(s) for alignment, said step comprising previously inserting a guide pin into the through-hole(s) of each plug, opposing plugs with each other, inserting another
5 guide pin into the through-hole(s) in one edge of said adapter to forcedly push said guide pin previously inserted into the plug, thereby fixing the opposed plugs to the adapter.

13. The optical fiber connecting method according to
10 Claim 12, wherein a fixing member provided with a guide pin(s) and being slidable to the adapter is used as a means for insertion of another guide pin into the through-hole(s) of the adapter and the adapter is mounted on the fixing member, which comprises sliding said fixing member in one
15 direction so as to insert the guide pin into the through-hole of the adapter.

14. The optical fiber connecting method according to Claim 11, wherein two plugs equipped each with a ferrule are used, which comprises a step of attaching slidably a ferrule
20 aligning member to the ferrule of at least one of plugs, into which an optical fiber(s) is inserted, a step of attaching each plug to the adapter in a direction perpendicular to the center axis of optical fiber to fix the plugs to the adapter in such a state that the ferrules of
25 the plugs oppose near to each other, and a step of sliding the ferrule aligning member in a direction of the center axis of the optical fiber so that the ends of the opposed ferrules are located inside said ferrule aligning member.

15. The optical fiber connecting method according to
30 Claim 11, wherein two plugs equipped each with a ferrule are used, which comprises a step of attaching one of two plugs, into which an optical fiber(s) is inserted, to an adapter equipped slidably with a ferrule aligning member in a

direction perpendicular to the center axis of the optical fiber, and sliding said ferrule aligning member so as to attach to the ferrule, a step of attaching the other plug to the adapter in a direction perpendicular to the center axis
5 of the optical fiber so that the ferrules oppose near to each other, and a step of sliding the ferrule aligning member in a direction of the center axis of the optical fiber so that the ends of opposed ferrules are located inside said ferrule aligning member.

10 16. The optical fiber connecting method according to Claim 14 or Claim 15, wherein the plug is equipped with a plurality of ferrules.